WHAT IS CLAIMED IS:

1.   A method of capturing an acceptable fingerprint image comprising the steps of:

(a)   capturing an initial fingerprint image at a nominal image integration time;

(b)   capturing a first intermediate fingerprint image at a first intermediate image integration time;

(c)   performing an image darkness test; and

(d)   performing an image definition test.

2.   The method of claim 1, further comprising a step (e) of capturing a subsequent intermediate fingerprint image at a subsequent intermediate image integration time prior to said step (d) when said step (c) results in an unacceptable darkness level.

3.   The method of claim 2, further comprising repeating said step (e) at additional subsequent intermediate integration times until said step (c) results in an acceptable darkness level.

4.   The method of claim 3, wherein said intermediate integration times are within a range of times that includes said nominal image integration time.

5.   The method of claim 4, wherein said intermediate integration times comprise multiples of 1/7 of the nominal image integration time.

6.   The method of claim 2, further comprising repeating said steps (b), (c), (d), and (e) until said step (d) results in an acceptable image definition level.

7.   The method of claim 1, wherein said step (c) further comprises the steps of:

    (f)   calculating average darkness values for a plurality of image darkness test lines;

    (g)   verifying that overall image darkness is acceptable; and

    (h)   verifying that image darkness distribution is acceptable.

8.   The method of claim 7, wherein said step (f) further comprises calculating average darkness values for a plurality of image darkness lines arranged in pairs of image darkness lines, said pairs of image darkness lines situated within an expected image capture region.

9.   The method of claim 8, wherein said step (g) further comprises verifying that a predetermined number of said plurality of image darkness test lines have associated calculated average darkness values that exceed a darkness threshold value.

10.   The method of claim 9, wherein said step (g) further comprises verifying that eight of said plurality of image darkness test lines have associated calculated average darkness values that exceed a darkness threshold value, and wherein said plurality of image darkness test lines includes ten image darkness test lines.

11.   The method of claim 1, wherein said step (d) further comprises the steps of:

    (i)   determining a ridge count for each of a plurality of image definition test lines; and

    (j)   verifying that image definition is acceptable based on the ridge counts determined in said step (i).

12.   The method of claim 11, wherein said step (i) further comprises determining a ridge count for each of a predetermined number of a first set of image definition test lines and for each of a predetermined number of a second set of image definition test lines.

13.   The method of claim 12, wherein said first set of image definition test lines comprises five vertical image definition test lines and said second set of image definition test lines comprises seven horizontal image definition test lines, and wherein said step (i) further comprises determining a ridge count for each of said five vertical image definition test lines and for each of said seven of horizontal image definition test lines.

14.   The method of claim 1, further comprising the step of:

(e)   performing said step (c) after a first companding curve is applied to the fingerprint images.

15.   The method of claim 14, further comprising the step of:

(f)   performing the following steps when said step (c) results in an unacceptable darkness level:

(i)   repeating steps (a) and (b);

(ii)   applying a subsequent companding curve to the fingerprint images captured in step (i); and

(iii)   repeating step (c).

16.   The method of claim 15, further comprising the step of:

repeating said step (f) until said step (c) results in an acceptable darkness level.

17.   A fingerprint scanner for capturing an acceptable fingerprint image comprising:

a camera that captures an initial fingerprint image at a nominal image integration time and captures a first intermediate fingerprint image at a first intermediate image integration time; and

a processor that performs an image darkness test and an image definition test.

18.   The fingerprint scanner of claim 17, wherein said camera further captures a subsequent intermediate fingerprint image at a subsequent intermediate image integration time when said processor performs an image darkness test that results in an unacceptable darkness level.

19.   The fingerprint scanner of claim 18, wherein said camera captures additional subsequent intermediate integration times until said processor performs an image darkness test that results in an acceptable darkness level.

20.   The fingerprint scanner of claim 19, wherein said intermediate integration times are derived from said nominal image integration time.

21.   The fingerprint scanner of claim 20, wherein said intermediate integration times are derived from said nominal image integration time by multiplying said nominal image integration time by multiples of 1/7 of the nominal image integration time.

22.   The fingerprint scanner of claim 18, wherein said camera captures subsequent intermediate fingerprint images at subsequent intermediate integration times until said processor performs and image darkness test and an image definition test that both result in acceptable image darkness and definition levels, respectively, for a single intermediate fingerprint image.

23. The fingerprint scanner of claim 17, wherein said processor calculates average darkness values for a plurality of image darkness test lines, verifies that overall image darkness is acceptable, and verifies that image darkness distribution is acceptable.

24. The fingerprint scanner of claim 23, wherein said processor calculates average darkness values for a plurality of image darkness lines arranged in pairs of image darkness lines, said pairs of image darkness lines situated within an expected image capture region.

25. The fingerprint scanner of claim 24, wherein said processor verifies that a predetermined number of said plurality of image darkness test lines have associated calculated average darkness values that exceed a darkness threshold value.

26. The fingerprint scanner of claim 25, wherein said processor verifies that eight of said plurality of image darkness test lines have associated calculated average darkness values that exceed a darkness threshold value, and wherein said plurality of image darkness test lines includes ten image darkness test lines.

27. The fingerprint scanner of claim 17, wherein said processor determines a ridge count for each of a plurality of image definition test lines and verifies that image definition is acceptable based on the ridge count for each of the plurality of image definition test lines.

28. The fingerprint scanner of claim 27, wherein said processor determines a ridge count for each of a predetermined number of vertical image definition test lines and for each of a predetermined number of horizontal image definition test lines.

29.   The fingerprint scanner of claim 28, wherein said processor determines a ridge count for each of five vertical image definition test lines and for each of seven of horizontal image definition test lines.

30.   The fingerprint scanner of claim 17, wherein said camera applies a first companding curve to said captured fingerprint images prior to said image darkness test.

31.   The fingerprint scanner of claim 30, wherein said camera captures an subsequent initial fingerprint image at a nominal image integration time and captures a subsequent first intermediate fingerprint image at a first intermediate image integration time when said image darkness test results in an unacceptable darkness level;

wherein said camera applies a subsequent companding curve to said captured subsequent fingerprint images; and

wherein said processor performs a subsequent image darkness test.

32.   The fingerprint scanner of claim 31, wherein said camera repeats the capture of subsequent initial fingerprint images, the capture of subsequent first intermediate fingerprint images, and application of subsequent companding curves, until an acceptable darkness level results.

33.   A method of capturing an acceptable fingerprint image comprising the steps of:

(a)   capturing a first intermediate fingerprint image at a first intermediate image integration time;

(b)   performing an image darkness test; and

(c)   performing an image definition test.

34.   The method of claim 33, further comprising a step (d) of capturing a subsequent intermediate fingerprint image at a subsequent intermediate image integration time prior to said step (c) when said step (b) results in an unacceptable darkness level.

35.   The method of claim 34, further comprising repeating said step (d) at additional subsequent intermediate integration times until said step (b) results in an acceptable darkness level.

36.   A fingerprint scanner for capturing an acceptable fingerprint image comprising:

        means for capturing an initial fingerprint image at a nominal image integration time and for capturing a first intermediate fingerprint image at a first intermediate image integration time; and

        means for performing an image darkness test and an image definition test.

37.   A system controller for use in a fingerprint scanner, wherein said system controller performs an image darkness test, and performs an image definition test.

38.   The system controller of claim 37, wherein said system controller calculates average darkness values for a plurality of image darkness test lines within a fingerprint image and verifies that overall image darkness and image darkness distribution are both acceptable.

39.   The system controller of claim 37, wherein said system controller determines a ridge count for each of a plurality of image definition test lines within a fingerprint image and verifies that image definition is acceptable based on the ridge count for each of the plurality of image definition test lines.